
Date : 22 November 2013 (Friday)
Time : 1.30pm to 5.30pm
Venue : 2 Bukit Merah Central
        Auditorium, Podium Block Level 3
        Singapore 159835

The seminar is accredited with PDU points (pending) and BOA-SIA CPD points (pending)

Organised by: SPRING Singapore
Supported by: National Environment Agency

The Singapore Standardisation Programme is managed by SPRING Singapore.
**Introduction**

Central chilled water systems account for 30%-50% of overall energy consumed in commercial and industrial buildings. High energy efficiency chilled water systems help reduce operating costs and minimize environmental impact of such buildings in Singapore. It is important to carry out long-term, continuous and accurate measurement and verification of important process parameters and relevant energy performance data to ensure that the chilled water systems are operating at their optimum level.

The new SS 591 specifies the requirements for sensors & instruments and data acquisition systems in capturing relevant parameters such as temperature, flow and power consumption of the central chilled water systems. It also specifies the requirements for the installation, commissioning, operational monitoring and maintenance of the measurement and verification (M&V) system in order to facilitate the long term and continuous measurement of the central chilled water system energy efficiency. The standard can also be used in assessing the performance of new and retrofitted central chilled water systems as well as how well the existing systems are being maintained by contractors.

In conjunction with the seminar, there will be a mini exhibition showcasing temperature measurement and calibration equipment.

**Who Should Attend**

- Building professionals, mechanical engineers, developers, building owners, facility managers responsible for the design, installation and maintenance of central chilled water systems
- Energy services companies (ESCOs)
- Calibration and testing laboratories
- Relevant government agencies

**What You Will Learn**

- Overview of the new SS 591 standard
- How the new standard supports conformance to the Green Mark version 4.1 and energy efficiency initiatives administered by NEA
- Important factors that affect calibration accuracy of sensors and measuring instruments & an understanding of measurement uncertainty
- Benefits of measuring and verifying the energy efficiency of central chilled water systems

**Programme**

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| 2.00pm | Welcome Address and Overview of Building & Construction Standards Committee  
|        | Mr Goh Peng Thong  
|        | Chairman, Building & Construction Standards Committee                  |
| 2.10pm | Overview of SS 591 on Long Term Measurement of Central Chilled Water System Energy Efficiency  
|        | Mr Lee Eng Lock  
|        | Convenor, Working Group on SS 591  
|        | Technical Director, Trane Asia Energy Solutions                         |
| 2.40pm | Energy Efficiency Initiatives for the Building Sector  
|        | BCA representative                                                      |
| 3.00pm | Refreshments                                                            |
| 3.30pm | NEA’s Energy Efficiency Initiatives for Industry and Public Sectors  
|        | Mr Chong Khai Sin  
|        | Senior Manager, National Environment Agency                             |
| 3.50pm | Calibration of Sensors and Measuring Instruments                         
|        | Ms Angie Ng  
|        | Member, Working Group on SS 591  
|        | Product Manager, Acez Instruments Pte Ltd                                |
| 4.10pm | Measurement Uncertainty and Energy Saving Management  
|        | Dr Wang Li  
|        | Principal Metrologist, National Metrology Centre                        |
| 4.30pm | The Multiple Benefits of Measuring and Verifying the Energy Efficiency of Chiller Plants  
|        | Mr Steven Kang  
|        | Member, Working Group on SS 591  
|        | Business Development Director, Measurement & Verification Pte Ltd       |
| 5.00pm | Panel Discussion                                                        
|        | Moderator: Mr Goh Peng Thong  
|        | Chairman, Building & Construction Standards Committee                   |
| 5.30pm | End                                                                     |